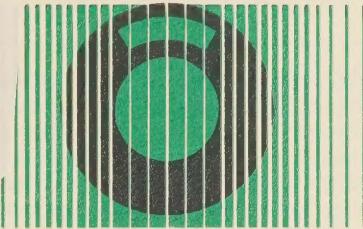




Machine Readable Records

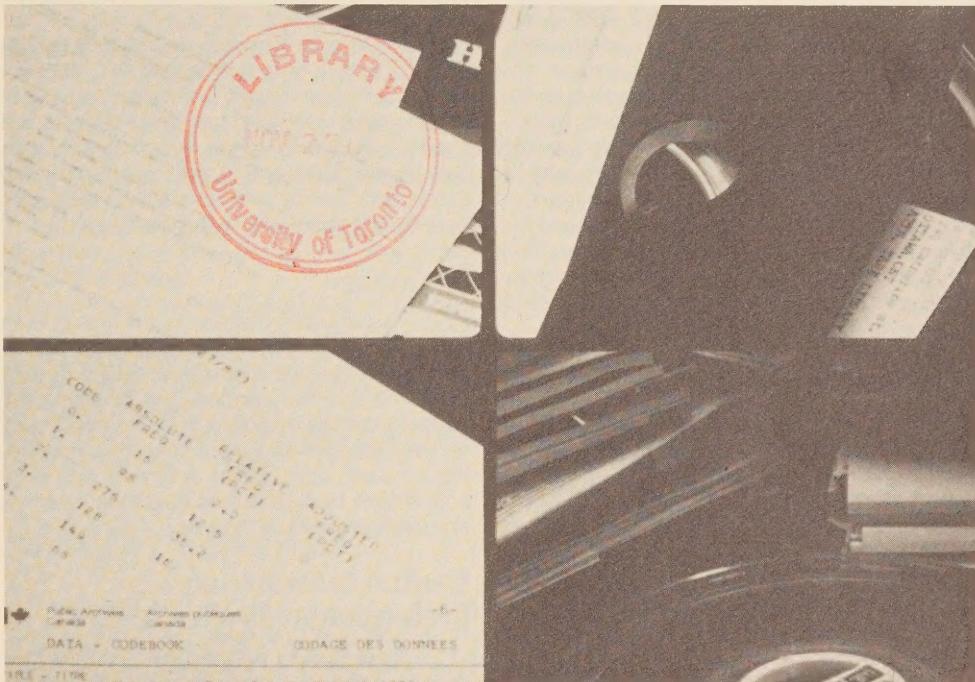
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An Update on Machine Readable Records at the National Archives

Since the reorganization in December 1986, a number of questions have been raised by researchers and others as to whether or not the machine readable program still exists. This article highlights some of the difficulties and accomplishments which have been encountered over the last year and a half and outlines what activities are now underway.

The size and complexity of the government's information holdings is enormous both in textual (paper) form and in electronic form. It has always been hoped that the existing mechanisms for the identification and scheduling of paper could be transposed to EDP records with the result being the smooth identification, scheduling and appraisal of records of archival value. The use of computers has extended to all sectors of government and many overlaps exist with existing paper systems. The intent of the reorganization of the Federal Archives Division and the Machine Readable Archives Division was to ensure that the Archives identifies and appraises all records associated with a program area regardless of medium and recommends the acquisition of the most valuable records. Many of the large government EDP systems involve many types of records such as textual (from policy records to input documents); machine readable in the systems themselves; and a myriad of output records such as reports, computer output microfilm, EDP files, etc. The appraisal of the EDP records cannot be done in a vacuum; the same can be said of textual records. Why acquire hundreds of metres of case files only to discover that the same information could be acquired in EDP form. The creation of the Government Archives Division was a way of responding to this situation.

As with any reorganization it has taken time to establish the structure and to provide training of staff to undertake, in most cases, these new functions. A substantial part of last year's work was spent on the development and undertaking of training both for those archivists who had little or no experience with machine readable records as well as those with little or no experience with hardcopy records. The training undertaken is only a start in providing the background and knowledge required for archivists to appraise and acquire government records. At the same time as the reorganization was occurring, the Division



responsible for the identification and scheduling of EDP records, the Automated Information Systems Division, was only just completing the staffing of positions.

A year and a half later both divisions are now beginning to initiate activities which will result in the acquisition of government produced data of research value. A streamlining of the process will likely lead to an efficient acquisition program. In a quick survey completed several years ago it was estimated that there were over 1,200 systems up and running in the major government departments. The survey was certainly not scientific but does provide an overview of the amount of automated information which exists in the federal government. The variety and complexity of these systems creates problems from both the informational context and the technical viewpoint. One clear problem is that many government departments have still not recognized the value of the data in these systems. Part of our job at the National Archives is to provide system managers with the tools required to ensure that data of archival value can be identified, described, retained and conserved. Systems have to be in place so that once data is identified as being valuable the technical mechanisms are there to ensure its continued transfer to the Archives. These tools take time to devise and implement, particularly in a large bureaucracy. The payoff is certain-

ly worth the work as there are large amounts of data which can be identified as archival and will eventually be transferred to the National Archives and in the long-term be available for research use.

Integrated Office Support System (IOSS)

The installation of local area networks in government departments and agencies raises a number of issues with respect to the identification, scheduling and acquisition of records of archival value. Questions arise about the form in which records created on these systems should be kept; the existence of records management systems to organize and save documents created by individual users; the stage at which the documents should be kept or destroyed; as well as other issues. One of the roles of the National Archives is to advise government departments on the proper management of their records. With little experience in the use of local area networks, it is difficult to advise others on the difficulties and directions that should be taken. In order to obtain experience in this field, as well as to provide information on the effect of these networks on the day to day work of an operation-

al area, the former Machine Readable Archives Division became a test site for the installation of a local area network. In January 1987, 22 workstations were installed in the initial test site. The reorganization of the Archives resulted in an expansion of the site to support the operational activities of the newly created Government Archives Division. The Integrated Office Support System (IOSS) currently supports 90 users on 64 workstations, spread over two local area networks. Although the project was installed in phases, the expansion of the test site has been rapid, requiring most support resources to be devoted to system debugging and maintenance, and away from system development and application testing. Overall system acceptance by users has been for the most part positive. This has created more pressure from users to pursue application development at a faster pace than anticipated at the outset.

System Description

The initial pilot project was expanded in December 1986 to include the office automation requirements of the former Federal Archives Division, in anticipation of the need to integrate operational functions of the two divisions which are now one. From an initial framework of 22 workstations supported by a single central file server, the project grew to include two local area networks, in two separate buildings.

One network now includes 24 workstations as well as the central file server, a communications server (gateway) and a remote site communications server in the tape library. The second network serves the staff located in another building. All of the applications in one site are mirrored in the second site.

All units within each network are hard-wired. Although the two networks can communicate using a specific software, this capability is not available from each staff member's workstation. Electronic mail communication from individual workstations is only available within each network. Solutions to this are available, but the separate locations are only temporary.

In addition to the purchased hardware, two IBM AT's have been linked into the network. One of these units has full graphics capability for future processing of cartographic and other similar types of data. Remote access to the system is possible through the use of a lap-top computer. The remote access is primarily in support of regional record centre activities.

Software

A variety of software has been system tested. The basic package at the time of system installation included word processing, spread sheet, project management capability, and a gateway communications to the computer service bureaus used for processing and cataloguing of data files. Other software has been added such as database management systems and system utility programs.

Central Information Management System (CIMS)

In order to meet one of the main objectives of the project — the management of records created on the system — a significant amount of time has been invested in the development of functional specifications for the design of the CIMS software. This software will allow documents to be produced electronically as well as those referenced electronically to be

stored in a properly managed environment. The software will permit system users to retrieve documents by indexed terms or through full-text retrieval.

Impact Assessment Studies

A series of impact assessments are being undertaken by Mount Saint Vincent University to provide an evaluation of the effect of the system on staff. This is a very important aspect of the installation of the network and one which is often neglected. Evaluations have been taken at three particular time periods: prior to the installation of the equipment; six months after installation; and one year later. These studies look at not only the employees reactions but also take into consideration the training, planning and the physical work environment.

The system has performed up to, and in some cases, beyond expectation. There have been relatively few hardware problems, and those encountered were resolved relatively quickly. Staff acceptance of the system has been good, as can be seen from the number of demands for more software and the development of other applications for operational activities. A full evaluation of the system will be completed at the end of this fiscal year.

An Inventory of Data Files on Aging in Ontario

The Elderly Services Branch, Ministry of Community and Social Services of Ontario, has provided a grant to the Aging and Health Research Unit, University of Toronto, to produce an annotated inventory of all information or data sets about residents of Ontario who are age 60 or older. The inventory will focus on social, recreational, health, housing, transportation or income maintenance aspects of the elderly. Both machine readable and hard copy data sets (including quantitative and qualitative data) are to be included in the inventory.

The inventory will be made available on microcomputer diskettes using R: Base software and should facilitate access to knowledge about Ontario's older population by governmental officials and others with a need for such information.

The project team will first inventory projects and then contact investigators in order to secure information describing the data sets. Detailed information will be gathered through telephone interviews, mailed questionnaires and, in some instances, site visits.

A brief description, including abstract and listing of important variables, name of contact person, and conditions governing accessibility, will be prepared for each data set. This will be returned to the owner/controller of the



data file for approval. The inventory will be established on microcomputer files.

The principal investigators on this project are: Victor W. Marshall, Ph.D., Professor, Department of Behavioural Science; Joanne Gard Marshall, M.L.S., M.H.Sc., Assistant Professor, Faculty of Library and Information Science; and Carolyn J. Rosenthal, Ph.D., Assistant Professor, Department of Behavioural Science, all of the University of Toronto. Wendy Green, Project Coordinator, and Joanne Daciuk, Data Coordinator, are staff members in the Aging and Health Research Unit. Further information about the project can be obtained from the project team.

Joanne Marshall
University of Toronto

MACDIF (Map and Chart Data Interchange Format)

Any organization which collects and distributes data from a wide variety of computer systems is concerned with the long-term useability of the data. Technological and software changes create major problems for the long-term preservation and use of data. For some time the standard practice has been to convert the data to a rectangular format for storage on good quality magnetic tape. The increased complexity of the systems being used by government institutions and other organizations makes this practice suitable for only a small number of data files. A number of initiatives are now underway to try and develop standard data transfer formats which not only have the ability to transfer data from one system to another but provide the archival world with solutions to a preservation problem. A study on standards was completed for the National Archives last year with recommendations that the National Archives focus its attention on the following standards: ODA (Office Document Architecture); ISO 8211 (Data Descriptive File for Information Exchange); FTAM (File Transfer and Access Method); TOP (Technical and Office Protocols); and MACDIF (Map and Chart Data Interchange Format). It is the latter which is the focus of this article.

The MACDIF project began in 1986-1987 in which the first phase included the completion of three specific tasks: the specification of MACDIF's format and structure and coding principles; the encoding, communication, decoding and printing of chart data in MACDIF (as a proof of concept); and the presentation of information sessions to a wide variety of possible users both in North America and Europe. Phase 2 of the project has been to revise, refine and extend the work already started in Phase 1.

MACDIF can be used to interchange map and chart data among agencies; to send data from data capture sources to agencies; to communicate map and chart data with private and public users; and to disseminate map and chart data to end users. A number of organizations and agencies are supporting the development of MACDIF including: the Departments of Communications; Energy, Mines and Resources; Fisheries and Oceans; National Defence; National Archives; and Supply and Services Canada. In Ontario, support has come from the Ministry of Natural Resources and in the United States from the National Ocean Service (National Oceanic and Atmospheric Administration).

The Canadian Hydrographic Service, Fisheries and Oceans, has released three MACDIF reports:

- (1) *Specification of the Map and Chart Data Interchange Format*. Revised Edition, March 1988. 125 pages.
- (2) *MACDIF: Proof of Concept Testing*. April 1987. 17 pages.
- (3) *MACDIF: A New Map and Chart Format?* March 1987. 45 pages.

IASSIST Conference

The 1988 IASSIST Conference was held in Washington, D.C. from May 26 to May 29. The theme of the conference — "Public Data: Use It or Lose It" — provided for a wide variety of interesting and informative sessions. Three major plenary sessions were held, each followed by a set of concurrent sessions. As has been tradition at IASSIST, the first plenary ses-

sion focused on the activities of the national statistical agencies. This year, four countries were represented: Canada, the United States, Sweden and Israel. The policies and programs of these agencies were outlined along with new initiatives which were underway. Of considerable interest to many American participants was the pricing policies for statistical data from Statistics Canada. Questions from participants reflected these concerns.

The second plenary session focused on "Professional Standards in the Information Age," with thought provoking presentations by Barbara Bailar, past President of the American Statistical Association and Frank B. Evans, President-elect of the Society of American Archivists. The third plenary, "Beyond the Social Science Data Archives," provided the participants with an overview of many of the issues facing data archives as they move from collecting social science statistical data to the administrative and operational data. Issues such as the importance of software in decision-making systems; the identification, preservation and use of data from systems which allow the rapid and relatively free flow of data horizontally across agencies and branches of government, as well as vertically between different levels of government; and, of course, the advancements in storage technologies. Among the speakers in the session were Margaret Hedstrom, New York State Archives; David Bearman, Archives and Museum Informatics; Erwin K. Scheuch, University of Cologne; Hans Jorgen Marker, Danish Data Archives; and Felix P. Krayeski, Congressional Research Service.

The concurrent sessions provided an opportunity to discuss specific problems in more



detail. A number of these sessions dealt with the use of specific types of data such as the Consumer Expenditure Survey and the Canadian General Social Survey; the use of administrative records for statistical research; and an exploration of the results of cross-national surveys. Other sessions focused on new techniques such as the full day session on "Social Policy Simulation Using Survey Microdata: Products, Techniques and Tools." A session on the "Democratization of Data" provided an interesting discussion on the implications for data archivists. Approximately ten per cent of the citizens of the United States are "computer literate," a figure distinctly inferior to Japan and much of Western Europe. This figure will rise. At the moment the unknowns are to what extent, who will participate, and whether or not the government will play a role. Emphasis on the access to databases, technical advances which will facilitate this democratization, and the relationship between cost and timeliness were explored.

Following the conference, workshops were held on data interchange standards; data products from the Bureau of the Census; and Integrating Machine Readable Records into Traditional Library Services. Two subject-oriented workshops were given on the special

aspects of the national longitudinal surveys of youth and the use of data from the data archive on adolescent pregnancy and pregnancy prevention.

1989 Conference

The 1989 IASSIST Conference will be held in May in Jerusalem. For details about the program, interested participants should contact: Michal Peleg, The Hebrew University of Jerusalem, Social Sciences Data Archives, Mount Scopus, Jerusalem 91905, Israel.

Notes

Use of Data in the Schools: The Government Archives Division has been discussing with Basil Tomlinson, consultant for the Carleton Roman Catholic School Board, about the possibility of distributing data to be used in the classroom. Initial tests will be undertaken using data from the Ontario 1871 Census and federal election results from ridings in Ottawa Carleton. The data will be available to both students and teachers.

Correction: In Vol. 5 - Nos. 1 & 2 of the *Bulletin*, an error was made in the title of the following file: The 1984 Canadian Nation Elections and Quebec Referendum Panel Study.

The title should be: The 1974-1979-1980 Canadian National Elections and Quebec Referendum Panel Study.

Canadian Unity Information Office: The data files created by CROP and acquired through the CUIO office only relate to data commissioned by CUIO and do not contain data collected through the CROP reports.

Contributions

We welcome articles from other organizations or researchers who are involved in some way with the creation, use and dissemination of machine readable records. In future issues of the *Bulletin*, we hope to be able to provide more information on research activities within the federal government. We would also like to receive articles on specific research projects, the operations of data archives and libraries, special collections of machine readable records, and other issues which may be of interest to the research community.

Articles not credited were prepared by Sue Gavrel, Government Archives Division.

Anyone wishing information about the *Bulletin* may write to: National Archives of Canada, Assistant Director, Government Archives Division, 395 Wellington Street, Ottawa, Ontario K1A 0N3, or phone (613) 996-5626.

Four obtenir des renseignements au sujet du Bulletin, veuillez écrire à : Archives nationales du Canada, Directeur adjoint, Division des archives gouvernementales, 395, rue Wellington, Ottawa (Ontario), K1A 0N3, ou téléphonez au 996-5626.

Les articles non signés ont été redigés par Sue Gravel de la Division des archives du Gouvernement fédéral.

Collaborations

Ernata: Vol. 5 - n^os 1 et 2 : Lettre du frichier
"Étude sur les élections générales cana-
diennes de 1984 et sur le référendum au
Québec" devrait se lire « Étude sur les élec-
tions générales canadiennes de 1974, de 1979
et de 1980 et sur le référendum au Québec ».
Centre d'information sur l'unité
canadienne (CUC) : Les frichiers créés par
CRDP et distribués par le CUC nécessitent
que les données acquises pour le compte du
CUC.

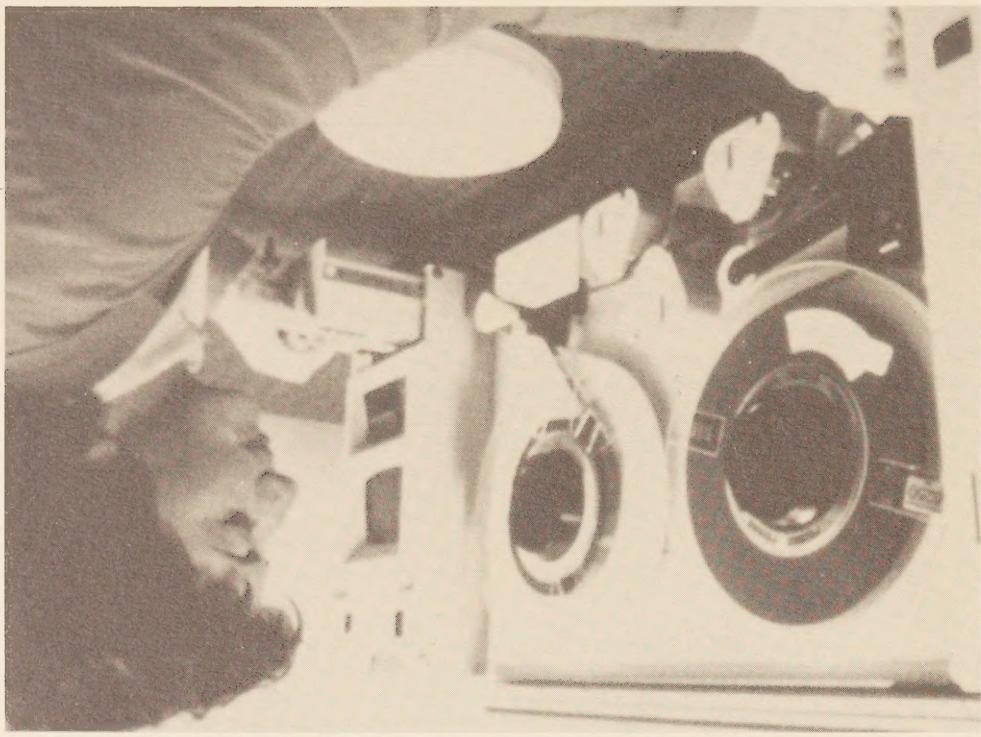
Quintinianus *ut omnibus auctoribus unus est*
écoles: *la Division des archives gouvernementales et M. Basil Tomlinson, conseiller au Conseil des écoles* et *Carleton, ont discuté de la possibilité de dis-tribuer des dons des archives dans les classes. A titre d'essai, les dommages du recentement obtenu de 1871 et les résultats des élections fédérales dans les circonscriptions d'Ottawa-Carleton servent mis à la disposition des enseignants et des élèves.*

Notes

La prochaine conférence de l'IASSIST se tiendra en mai 1989 à Jérusalem. Pour obtenir des informations sur le programme, veuillez communiquer avec M. Michal Peleg, The Jerusalem University, Mount Scopus, Jerusalem 91905, Israel.

Conférence de 1989

Conférence de 1989



ASSIST 1988

sources naturelles appliquée le programme, tant-
dis qu'aux Etats-Unis, c'est le National Oceanic
and Atmospheric Administration (NOAA) qui appuie
le Service hydrographique du Canada
à l'échelle des océans) a publié trois rapports sur
la classification de la carte et Chart Data Inter-
change Format. Édition revue et corrigée,
mars 1988, 125 pages.

2) MACDIF: Proof of Concept Testing. Avril
1987, 17 pages.

3) MACDIF: A New Map and Chart Format?
Mars 1987, 45 pages.

MACDIF (Map and Chart Data Interchange Format)

Joanne Marshall
Université de Toronto

l'avenir de la France. Il a été nommé à la tête de la commission d'Etat chargée de l'organisation de l'Exposition universelle de 1867 à Paris. Il a été nommé à la tête de la commission d'Etat chargée de l'organisation de l'Exposition universelle de 1867 à Paris.

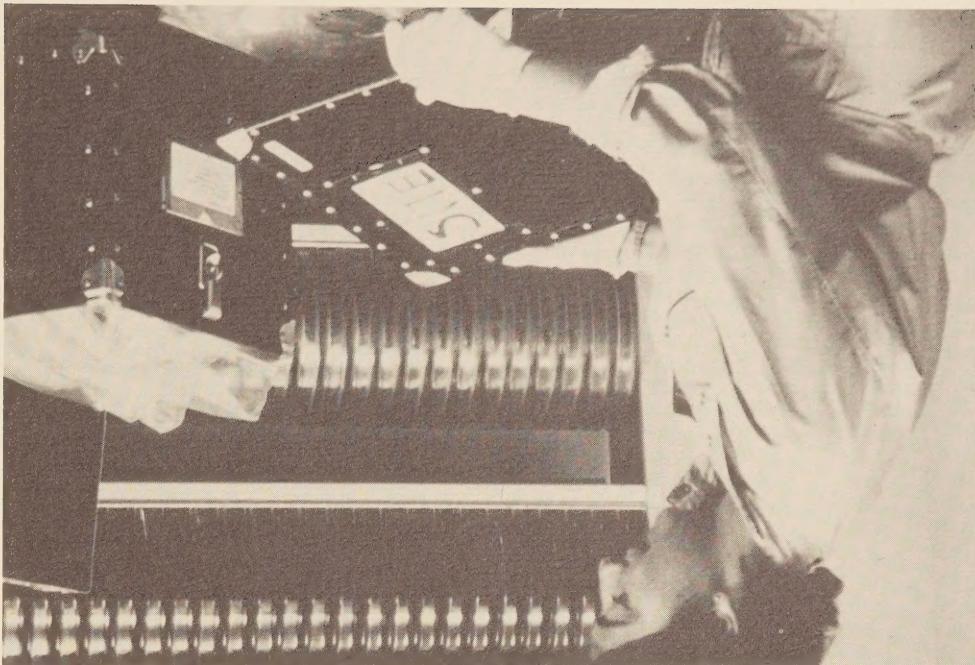
Le système a donc les résultats escomptés, dans certains cas, les même dépassés. Les problèmes de métier, les mêmes dépassés, ont vite régulés. Le personnel a rapidement accueilli le système, comme un témoignent les nombreuses demandes de logiciels supplémentaires et de développement ad applicatifs additionnelles. Le système sera, objectif d'une évaluation exhaustive à la fin de l'exercice financier en cours.

Les spécificités de l'université Mount Sainte-Victoire illustrent des études destinées à évaluer les effets du système sur le personnel. III s'agit là d'un aspect très important, mais souvent négligé, de l'installation d'un système. Trois évaluations ont été faites : avant l'installation du matériel, six mois après l'installation, et un an plus tard. On examine aussi le programme de formation, la formation seulement, et les réactions des employés mais aussi le milieu de travail.

Etudes d'impact

CMMS (Computerized Maintenance Management System)

contraints charges du traitement et du catalogue des fichiers. De plus, on a ajouté d'autres logiciels tels des systèmes de gestion de bases de données et des programmes utilitaires de base.



Logicals

Description du système

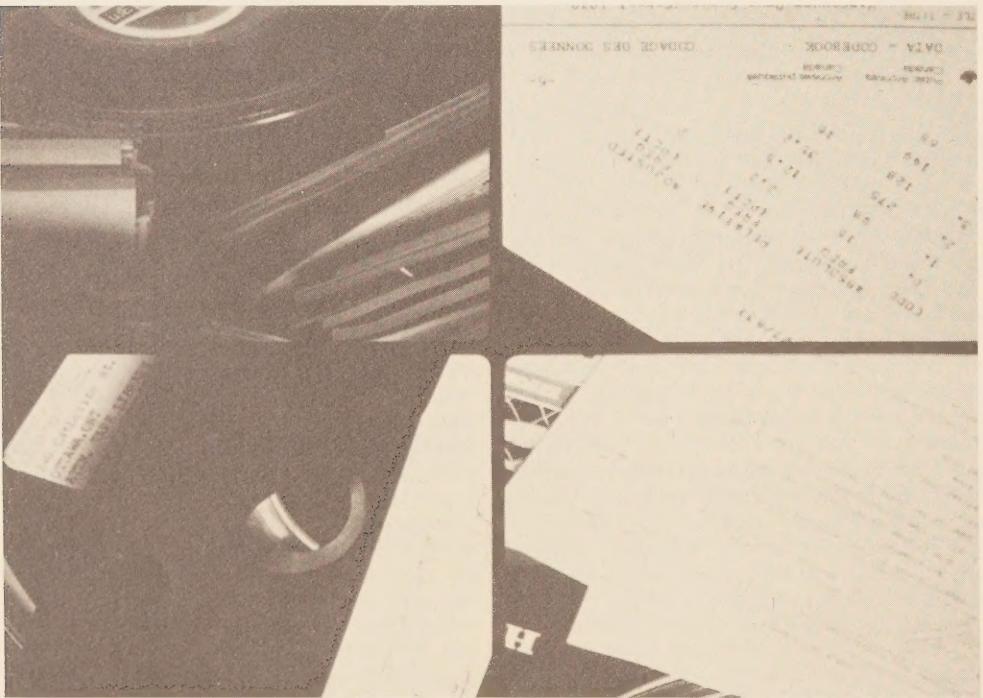
En prévision de la fusion de la Division des archives ordinaires et de la Division des archives fédérales, Lessard pilote à vu, en décembre 1986, son champ d'application s'étendre aux opérations bureautiques de la Division des archives fédérales. Le système, qui au départ ne comprendait que 22 postes de travail aimantés par un seul serveur de tricheurs centraux, a été dès lors composé de deux



La mise en place de réseaux locaux dans les ministères et les organismes fédéraux soulève plusieurs questions sur l'identification, l'acquisition et la conservation de documents de l'administration fédérale. Ces documents sont généralement conservés dans des systèmes de gestion de l'information (SGI) et sont accessibles via des réseaux internes. Cependant, la mise en place de réseaux locaux peut entraîner des problèmes de sécurité et de gestion des documents. Par exemple, les documents peuvent être copiés et diffusés sans autorisation, ce qui peut entraîner une perte de confidentialité et de sécurité. De plus, la mise en place de réseaux locaux peut entraîner une augmentation de la quantité de données à gérer, ce qui peut entraîner des problèmes de gestion et de conservation des documents. Pour résoudre ces problèmes, il est recommandé de mettre en place des politiques et des procédures de gestion des documents qui garantissent la sécurité et la confidentialité des données, et qui facilitent la gestion et la conservation des documents. Il est également recommandé de mettre en place des systèmes de gestion de l'information qui sont adaptés aux besoins de l'administration fédérale et qui facilitent la gestion et la conservation des documents.

IOSS (Integrated Office Support System)

tion et la conservation des données ayant une valeur historique. Pour ce faire, il faut mettre en place, des mécanismes techniques permettant un transfert constant de ces données aux Archives. L'élaboration et l'implantation de ce système devrait être une priorité dans une structure administrative. Cependant, cela en vaut la peine, car on pourra économiser la valeur archivistique des documents pour les transférer ensuite aux Archives nationales, où, à long terme, elles serviront de chérisseables aux chercheurs.



Le Point sur Les documents nationales ordinolingués des Archives

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